



6J7, 6J7-G, 6J7-GT SHARP-CUTOFF PENTODE

6J7
6J7-G
6J7-GT

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage. 6.3 ac or dc volts
Current. 0.3 amp

Direct Interelectrode Capacitances:

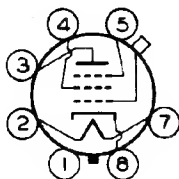
	6J7 [▲]	6J7-G	6J7-GT	
Pentode Connection:				
Grid No. 1 to Plate	0.005 max.	0.007 max. ●	0.005 max. ●	μμf
Input	7 . .	4.6 ● . .	4.6 ● . .	μμf
Output.	12 . .	12 ● . .	12 ● . .	μμf
Triode Connection:*				
Grid No. 1 to Plate	2 . .	1.8 □ . .	1.8 □ . .	μμf
Grid No. 1 to Cath.	5 . .	2.6 □ . .	2.6 □ . .	μμf
Plate to Cathode.	14 . .	17 □ . .	17 □ . .	μμf

Mechanical:

Mounting Position . .	Any	Any	Any
Max. Overall Length .	3-1/8"	4-15/32"	3-5/16"
Seated Length . . .	2-7/16" ± 1/8"	3-3/4" ± 5/32"	{ 2-5/16" to 2-3/4" }
Maximum Diameter. . .	1-5/16"	1-9/16"	1-5/16"
Bulb.	{ Metal Shell MTTBA }	ST-12	T-9
Cap	Miniature	{ Skirted Miniature }	{ Skirted Miniature }
Base	{ Small-Wafer Octal 7-Pin }	{ Small-Shell Octal 7-Pin }	{ Small-Wafer Octal 7-Pin, Sleeve }
Basing Designation	7R	G-7R	GT-7R

BOTTOM VIEW

Pin 1 { 6J7-Shell
6J7-G-Internal
Shield
6J7-GT-Base
Sleeve
Pin 2-Heater
Pin 3-Plate



Pin 4-Grid No. 2
Pin 5-Grid No. 3
Pin 7-Heater
Pin 8-Cathode

Cap - Grid No. 1

AMPLIFIER - Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. 300 max. volts
GRID-No. 2 (SCREEN) VOLTAGE 125 max. volts
GRID-No. 2 SUPPLY VOLTAGE 300 max. volts
PLATE DISSIPATION. 0.75 max. watt
GRID-No. 2 DISSIPATION. 0.1 max. watt

(continued on next page)

- ▲ With shell connected to cathode. □ Without external shield.
● With external shield connected to cathode.
* With grid No. 2 and grid No. 3 connected to plate.

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GRID-No.1 (CONTROL-GRID) VOLTAGE:

Positive bias value. 0 max. volts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. . 90 max. volts

Heater positive with respect to cathode. . 90 max. volts

Typical Operation and Characteristics:

Plate Voltage. 100 250 . . volts

Grid No.3 (Suppressor) . Connected to cathode at socket

Grid-No.2 Voltage. 100 100 . . volts

Grid-No.1 Voltage. -3 -3 . . volts

Plate Resistance (Approx.) 1 # . . megohm

Transconductance 1185 1225 . . μ mhos

Grid-No.1 Bias (Approx.) for
cathode-current cutoff. . . -7 -7 . . volts

Plate Current. 2 2 . . ma

Grid-No.2 Current. 0.5 0.5 . . ma

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 1 max. megohm

AMPLIFIER - Class A₁

Triode Connection - Grids No.2 & No.3 Connected to Plate

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. 250 max. volts

PLATE DISSIPATION (Total). 1.75 max. watts

GRID-No.1 VOLTAGE:

Positive bias value. 0 max. volts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. . 90 max. volts

Heater positive with respect to cathode. . 90 max. volts

Typical Operation and Characteristics:

Plate Voltage. 180 250 . . volts

Grid-No.1 Voltage. -5.3 -8 . . volts

Amplification Factor 20 20

Plate Resistance (Approx.) 11000 10500 . . ohms

Transconductance 1800 1900 . . μ mhos

Plate Current. 5.3 6.5 . . ma

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 1 max. megohm

BIASED DETECTOR

Typical Operation:

Plate-Supply Voltage ϕ . . 100 100 250 250 volts

Grid No.3. Connected to cathode at socket

Grid-No.2 Voltage. 12 30 50 100 volts

RF Grid-No.1 Volts (RMS)* 1.05 1.6 1.18 1.37 volts

#, ϕ , *: See next page.

JUNE 15, 1948

TUBE DEPARTMENT

DATA 1

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



6J7, 6J7-G, 6J7-GT
SHARP-CUTOFF PENTODE

6J7
6J7-G
6J7-GT

Cathode-Bias Resistor.	18000	10000	3000	10000	ohms
Zero-Sig. Cathode Cur.	0.063	0.183	0.65	0.43	ma
Plate Resistor	1.0	0.25	0.25	0.5	megohm
Blocking Capacitor . .	0.01	0.01	0.3	0.3	μ f
Grid Resistor*	1.0	0.5	0.25	0.25	megohm

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 1 max. megohm

* Greater than 1 megohm.

♦ Voltage at plate will be "Plate-Supply" voltage minus voltage drop in plate resistor caused by plate current.

★ With these signal values modulated 20%, the voltage output under each set of conditions is 17 peak volts at the grid of the following amplifier. This value is sufficient to insure full audio output from a 6F6 (class A pentode) at 250 volts on plate.

⊙ For the following amplifier tube.

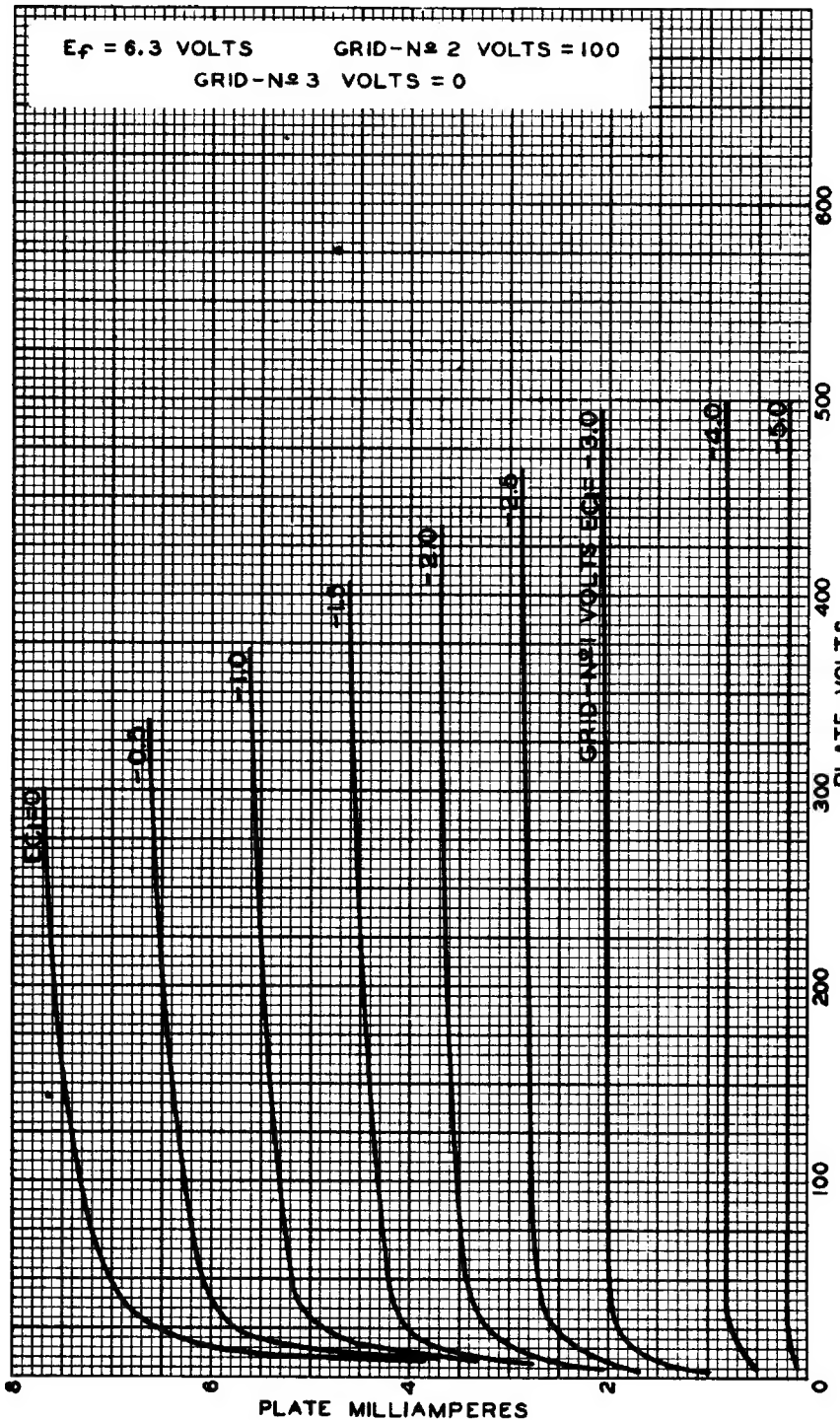
For additional data, see RESISTANCE-COUPLED AMPLIFIER CHARTS at the front of this Section.

6J7



6J7

AVERAGE PLATE CHARACTERISTICS



MAY 12, 1948

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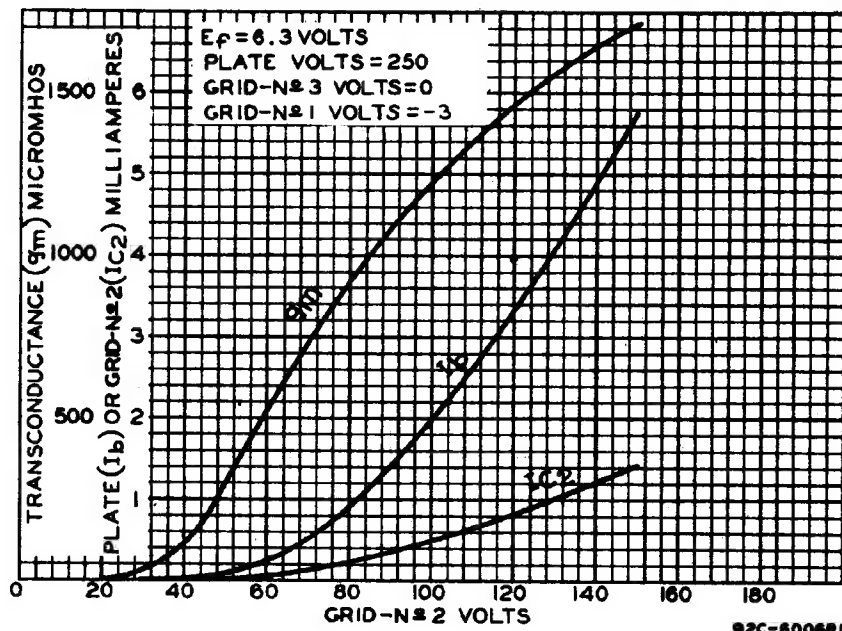
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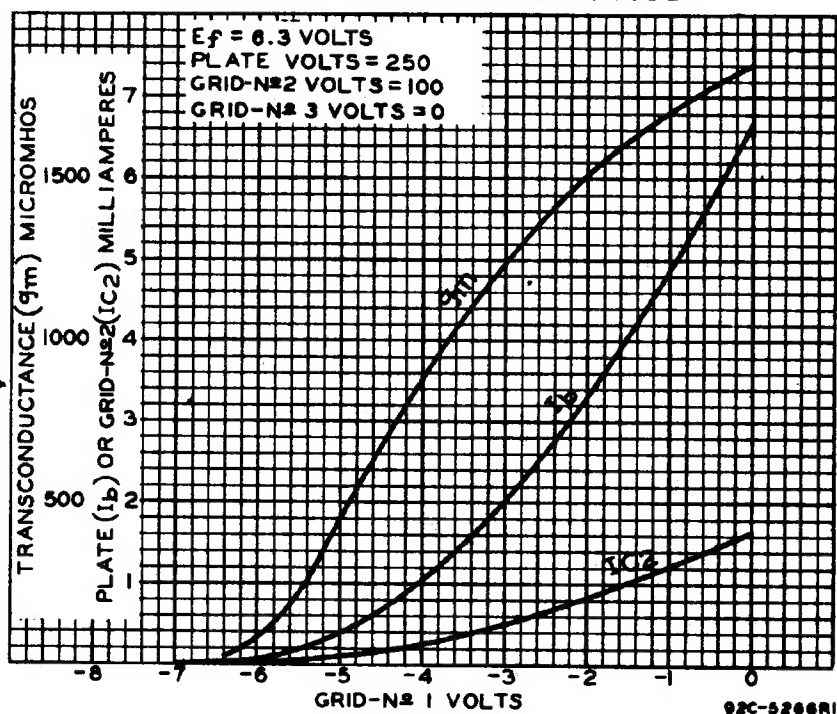
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AVERAGE CHARACTERISTICS



AVERAGE CHARACTERISTICS



MAY 18, 1948

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RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

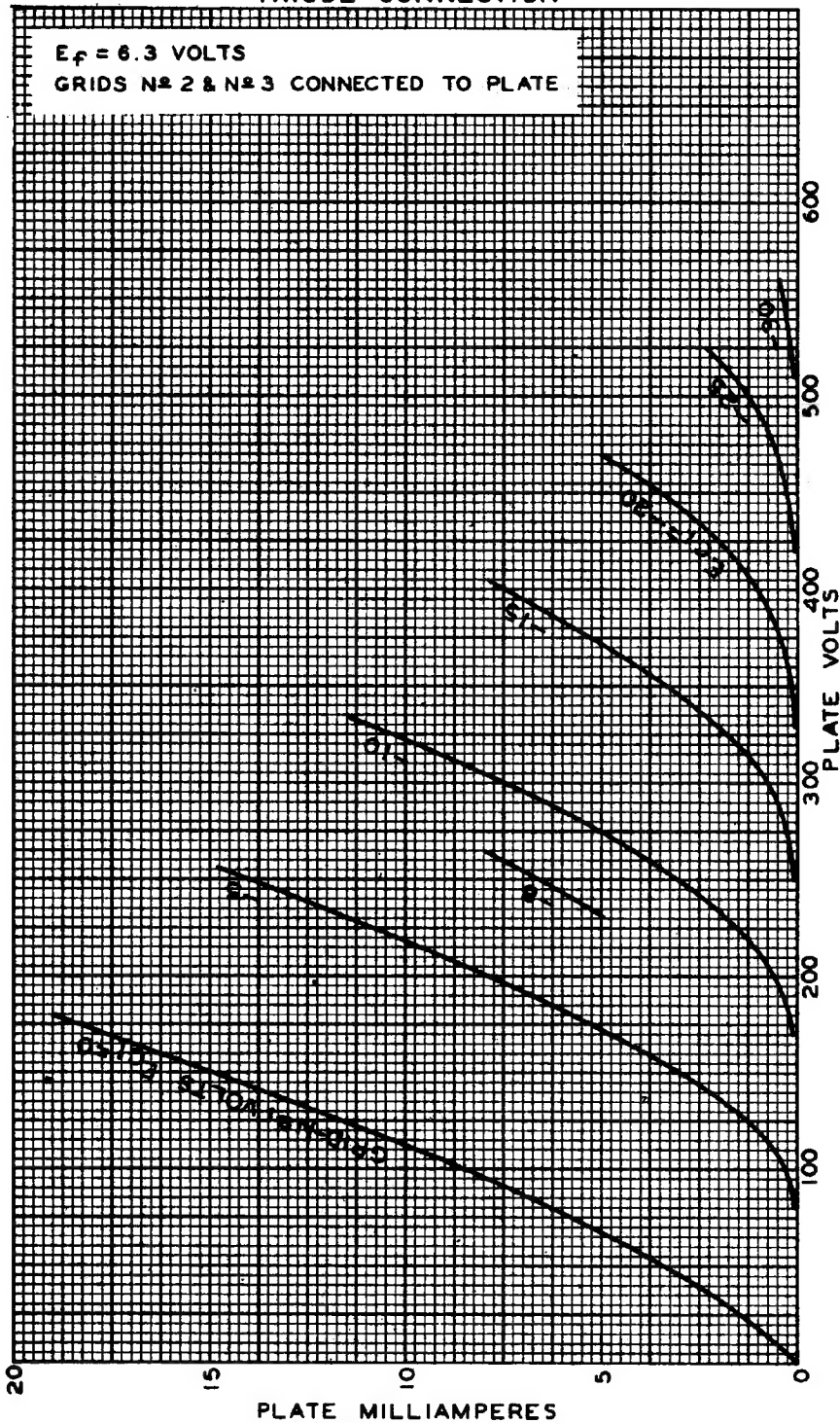
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6J7



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AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION



MAY 11, 1948

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92CM-4842R1